
Practitioner viewpoint – Problem-based approach to entrepreneurship education in Africa

Practitioner
viewpoint

311

Introduction

Several development economists have suggested that entrepreneurship and small enterprise development is the most viable solution to Sub-Sahara Africa's (SSA) persistent poverty problem, since such enterprises enhance individuals' capacity to care for themselves and their families and provide jobs for the youth (Kuada, 2011). Furthermore, as these enterprises grow and become part of the formal economic sector, they may provide tax revenues for anti-poverty and welfare policies of governments (Kuada, 2015). For this reason, higher education institutions (HEIs) in the various African countries have been under growing pressure to prepare and encourage their students to become entrepreneurs. However, making the HEIs launch pads for young entrepreneurs have proved to be very difficult. Several business scholars acknowledge that starting and running businesses is a complex undertaking, and the predictive validity of any single approach is nearly impossible to establish (Rae, 2012). In addition, factors other than formal education contribute to an individual's preparedness for starting a business and the HEIs may lack the capabilities to provide the required all-round preparation. Thus, the role of entrepreneurship education (EE) and the ability of African universities to bridge entrepreneurial skill gaps on the continent remains a vigorously debated topic within SSA policy and academic circles.

This paper presents a practitioner viewpoint that seeks to make two modest contributions to the debate. First, it discusses the relevance of EE and the contemporary approaches to improving students' readiness to engage in entrepreneurial activities in market economies. Second, it introduces the problem-based learning (PBL) approach to learning within a Danish business school and discusses its relevance to entrepreneurial education in SSA. The paper also discusses the educational policy and administrative implications of adopting such an approach.

Relevance of entrepreneurial education in market economies

Past studies have revealed that many start-ups fail to reach high growth levels, and only few of them become knowledge intensive and/or base their business models on innovation (GEM, 2021). For this reason, policymakers in both developed and developing countries now accept EE as an important policy instrument for accelerated economic growth. It has been argued that establishing links between industry, students and HEIs can facilitate improvements in the "enterprise culture" within academic environments and train students not only as job seekers but also as job givers (Sorensen and Laursen, 2009). In order to play the new role effectively, HEIs are required to design EE programmes that can cultivate entrepreneurship consciousness among students and offer them the skills, knowledge and mindset to develop business ideas that can transition into their own ventures (Rae, 2012). The list of skills and capabilities students are expected to acquire include self-regulatory and self-efficacy skills, capabilities of thinking out-of-the-box to develop innovative solutions to mundane problems within their communities as well as abilities to network and to leverage resources to start new businesses (Rae and Carswell, 2001).



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Studies have shown that the teaching methods adopted in the HEIs to fulfil this role have most often been misaligned with their ambitions. The EE literature has drawn distinction between courses that have the characteristics of “education *about* entrepreneurship” versus “education *for* entrepreneurship” (Pittaway and Cope, 2007). The first type seeks to provide knowledge about entrepreneurs and the challenges they face, while the second aims at providing students with skills and capabilities that will prepare them for the entrepreneurial journey. However, hitherto, teaching methods adopted in HEIs tend to emphasize the first rather than the second type (Duval-Couetil, 2013). Furthermore, the entrepreneurial landscape has changed significantly all over the world, requiring new orientations to entrepreneurial knowledge and attitude development. Reflecting on this change, Sorensen and Laursen (2009) observe that as economies transition from dependence on skill-based entrepreneurs towards knowledge intensive entrepreneurs, there is the need to redefine the role of HEIs in general and business schools in particular in market economies. They define skill-based entrepreneurs as those who start their businesses based on practical skills (e.g. an artisan), while the knowledge intensive entrepreneurs use science and technology-based knowledge for their businesses. This transition implies that the emphasis in EE must no longer be on encouraging students to answer theoretically formulated questions perfectly. Rather, students must learn to think and rethink and take risks. Others argue that successful EEs are those that are able to motivate students to start business ventures during their studies as work experience projects, thereby testing their business ideas in real life situations as a basis for a genuine self-generated future career option (Rae and Carswell, 2001).

Research into EE in Africa informs that EE is at an early stage of development, even though some HEIs on the continent have been involved in it since the early 1990s. Teaching methods used in the EE programmes remain predominantly teacher-centred and overly reliant on lectures and case studies, with perhaps a few guest speakers and on-site visits thrown in (Co and Mitchell, 2006). However, few universities are now introducing videos, computer simulations, role-playing games and internships as means of enhancing the practical skill base of their programmes. Furthermore, most teachers on these programmes lack entrepreneurial experience and skills. Therefore, they feel comfortable teaching about entrepreneurs rather than provide students with basic skills in starting a new business. Thus, African universities tend to view EE programmes as add-ons to their teacher-centred and theory-focused curricula and the participants are not viewed as a new student group requiring a new teaching space and a different approach to teaching. Although varieties of pedagogical approaches are emerging in the EE landscape to facilitate educating for (rather than about) entrepreneurship, the discussions in the subsequent sections of the paper will show that EE designers in African universities can gain valuable inspirations from the problem-based learning approach applied in Danish business schools. So far, the Danish version of PBL has been adopted in universities in such countries as Tanzania and Ghana in Africa as well as China and Moldova.

Problem-based learning in Danish business schools

PBL, as a pedagogical approach, trains students to become engaged problem-solvers by providing them authentic experiences that foster active learning, support knowledge creation and a natural integration of university level learning and life experience. In other words, it encourages students to identify the root problems in specific social or organizational settings, understand conditions needed for solving them and design appropriate solutions for them (Kuada, 2012). In this way, students are able to strengthen their ability to become self-directed learners. Teachers serve as creators of the learning space and facilitators of the learning process, acting more as problem-solving mentors who nurture an environment that supports the open inquiry of their students rather than being teachers in the traditional sense. Therefore, projects constitute an essential component of this approach to learning.

The Danish version of PBL has evolved over the last half a century with the aim of aligning university education to societal needs. The first generation of the PBL model had an academic focus and took a practical problem as a learning task. However, the goal was not so much to find a solution to the identified problem as to use the problem as a point of reference that allowed students to engage in deeper reflections over societal problems (Sorensen and Laursen, 2009). It soon became apparent that this approach did not adequately fulfil the competence needs of the Danish society. Hence, the need to design the second generation PBL model became more solution-oriented and took its point reference in real business problems. Students' learning task became one of disentangling complex organizational and institutional problems in real operational situations and finding solutions to them through close interaction with those who have the problems to deal with. Collaborations with organizations outside the university became the hallmark of this version of PBL.

The inadequacy of the second version in simultaneously addressing the intellectual and practical skill needs of the students led to the development of the third generation of PBL model. The focus of this version has been to encourage the integration of theory and practice through iterative and reflective processes. Students are again required to take their point of reference in specific organizational and institutional problems. However, with this version they are encouraged to engage in theoretical reflections on the origins of the problem and find practical solutions to them. Thus, the approach trains students to understand the root causes of the problems and the assumptions underlying managers' understanding of the problems. In this way, students (together with their organizational actors) engage in what Argyris (1976) refers to as double-loop learning.

In our view, there is a need for a fourth generation of PBL to fulfil the objectives of EE – i.e. to nurture knowledge intensive entrepreneurs. Following Sorensen (2020), this fourth generation of PBL must be founded on the following general PBL principles:

- (1) Students must engage in real business challenges to enhance relevance of their studies.
- (2) Focus must be on the integration of theoretical reflection and practical experience through direct collaboration with the business community.
- (3) Students must work in groups to enhance their diversity in thinking and creativity as well as improve their networking and collaboration skills.
- (4) Students must prepare projects that identify, analyse and find solutions to business challenges.
- (5) The study time of students must be divided more or less equally between project/group work and other study activities, including classes.
- (6) The roles of teachers must be to organize the learning space for students and serve as mentors for the project/group work.
- (7) Examinations must be based on students' projects, mostly oral and group-based, but with individual grading.

These seven generic PBL principles must be configured to respond adequately to the EE objective of “education *for* entrepreneurship.” The discussions below provide an illustration of such a configuration within the African context.

Relevance of PBL for entrepreneurship education in Africa

Our teaching experiences from several African countries, including University of Ghana and Sokoine University of Agriculture (in Tanzania) indicate that African university teachers are

under no pressure to relate the theories they teach to practical problems and therefore adopt the classical one-way learning process in which traditional classroom lecturing dominates. Teachers who are conscious of the limitation of this approach use cases and examples derived from the local environment to provide some contextual illustrations of the theories they present. As noted above, this approach ill-equips students for the commencement of their entrepreneurial journeys. In this section, we argue that a PBL model will improve African HEI efforts at entrepreneurial education. The discussion will take its point of reference in training undergraduate students to become high growth entrepreneurs. The starting point in developing such an EE programme is to understand the challenges that the background of African students poses for their transformation into successful entrepreneurs. We shall highlight only four glaring challenges.

First, unlike artisans, students entering African universities do not have practical experiences to build on. This makes it difficult for them to relate the theories they are taught to practice (Ndyetabula *et al.*, 2016).

Second, most students have no or little formal training in creative knowledge development and innovation. Hence, nurturing students' creativity will lay a foundation for their development of innovative ideas (Sorensen, 2020).

Third, in nurturing entrepreneurs, the human side is as important as the business side. That is, EE programmes must also help develop a positive mindset and culture that cherishes human development through private sector entrepreneurship, creativity and innovativeness (Ndyetabula *et al.*, 2016).

Fourth, it is important to make students aware of the distinction between different categories of entrepreneurship. The concept of "social entrepreneurship" is gaining ground within policy and academic circles in Africa. While conventional private sector entrepreneurship aims at making profit for individual entrepreneurs, social entrepreneurs tend to plough their earnings back into their communities for social development.

These four challenges suggest that the adoption of new configuration of the PBL principles within entrepreneurship programmes in African universities must include and focus on the following four issues:

- (1) The integration of theory and practice (see PBL principles 1 + 2 above). This will help students appreciate how theoretical reflections can help them understand practice.
- (2) Aligning entrepreneurship with innovation to create a solid foundation for a competitive advantage and thereby strengthen the entrepreneur's growth capabilities (see PBL principle 5 above).
- (3) Blending projects that focus on understanding existing entrepreneurs with students own business ideas (see PBL principle 3 above). In this regard, established entrepreneurs may serve as mentors to the students to help develop their business ideas.
- (4) Blending projects that focus on the human side of the entrepreneur with projects that focus on the business side. As students are in the midst of identifying their own identity, it is important that they work on projects that allow them to experience "life as an entrepreneur" (see PBL principle 4 above). Even good business plans are poor substitutes for real life entrepreneurial experiences.

With these ideas as a background, EE programme designers can then create an EE value chain. This requires organizing the learning space and arranging the learning activities in a manner that ensures a gradual accumulation of entrepreneurship capabilities. The transformation process may have three stages in the chain; starting with strengthening students' awareness of the potentials in entrepreneurship (i.e. learning about

entrepreneurship) and preparing them fully to commence their entrepreneurial journeys while continuously supporting the journey itself. Figure 1 provides a schematic illustration of the likely sequence of the stages over the academic programme.

The first is the awareness stage where students become familiar and comfortable with the concept of entrepreneurship and its role in a dynamic market economy. This part of the programme may also provide some awareness of the role of creativity and innovation in the entrepreneurial growth process. Students may be required to study the activities of some specific entrepreneurs to help integrate the theoretical knowledge to which they are exposed with real life practice.

During the second stage, students will work on the integration of the human and the business side of entrepreneurship, i.e. building an entrepreneurial mindset alongside building a business case. A PBL approach to mindset development can take the form requiring students to investigate and solve a problem within their operational environment. This may be done on an individual basis or as a group in collaboration with a local entrepreneur, thereby gaining some insight into how entrepreneurs think and act within the local operational environment.

The third stage may be described as innovation and skill development stage during which students work together with entrepreneurs as mentors while they acquire business management skills and capabilities that will enable them to develop new products or services for the market, thereby commencing their own entrepreneurial journeys. They also learn about how entrepreneurs leverage resources through formal and informal relations (e.g. social networks) in order to build the resource base for their businesses. The timeframe of each stage will be determined by the specific university regulations as to whether the programme is designed for a 3-year or a 4-year duration.

The discussions above invite some policy considerations at both educational and public institutional levels. First, cross-faculty collaborations with disciplines such as engineering, science and business must be encouraged to bring diversity into the foundational knowledge

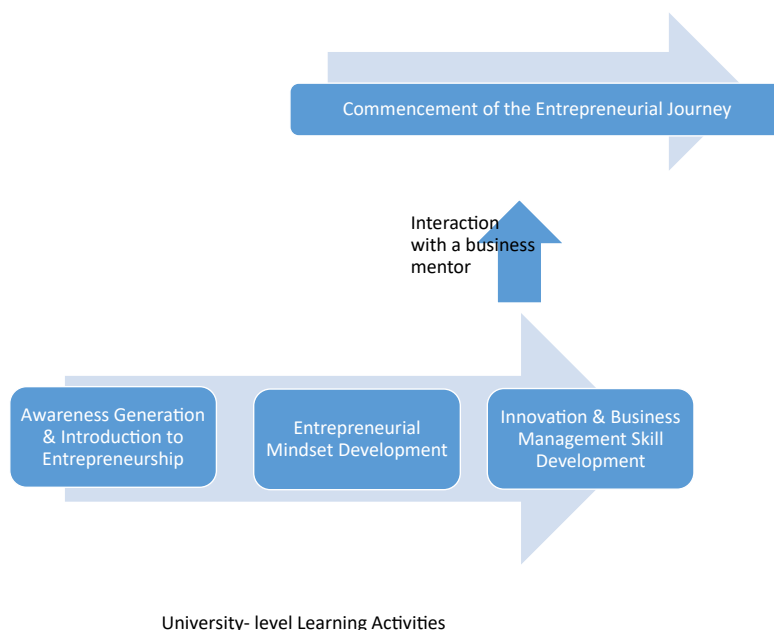


Figure 1.
PBL-facilitated
entrepreneurship
development process

base of prospective young entrepreneurs. Second, partnerships with local communities and small business owners must be developed to facilitate the mentorship learning processes suggested above. Third, universities must encourage research into the effectiveness of existing EE programmes in order to improve the evidence base for their further development. Finally, establishing incubators and/or clubs for students can stimulate productive networking and business-related extra curricula activities.

Furthermore, it is also important to bear in mind that the socio-cultural and politico-institutional environment within which entrepreneurs operate tend to influence their attitudes and motives, as well as the constraints and opportunities related to starting and expanding a business (Ndyetabula *et al.*, 2016). Evidently, the ability of such institutions to facilitate growth depends on the degree of trust that entrepreneurs have in the institutions. Past research has suggested that African business environments are characterized by high levels of bureaucracy and uncertainty. Public officials most often deliberately impede rather than facilitate business activities, while framing the “rules of the game” to protect their own privileges (Kuada and Mangori, 2021). Under such conditions, it is difficult to start and operate a decent business regardless of how much training one acquires. Since these contextual issues are outside the immediate control of African HEIs, universities must support initiatives that advocate changes in the institutional culture while they continue to educate the new generation of entrepreneurs.

While the above PBL principles are easy to understand, our experience is that context, assumptions and barriers that may influence their practice in each country are likely to be different. Consequently, additional research is required to enhance our understanding of these factors and how they influence the translation of EE knowledge into effective entrepreneurial practice in SSA. Specifically, it would be useful to investigate the link between entrepreneurship policy and EE in different countries and how EE programmes can facilitate the development of growth-oriented entrepreneurs. Furthermore, future research must also pay attention to the contextual variables that influence the integration of entrepreneurship courses and entrepreneurship practice projects in each country. Finally, given the paucity of studies about the development of successful collaborations between HEIs and business communities in Africa, we need some research to guide the choice of appropriate modalities in the different African countries. For example, countries such as Tanzania have designed incubators and established knowledge sharing networks of students and local entrepreneurs. It will be useful to examine the effectiveness of these and other approaches currently in use.

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